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Spotted Owl Symposium

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Single-species Versus Ecosystem Management: Lessons for the Future

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The spotted owl/old-growth issue has often been portrayed by the news media as owls versus people or jobs versus conservation of older coniferous forests. Actually, the spotted owl serves as an indicator species for late-successional forests to many environmentalists and managers. However, we know from basic ecological principles that different species occupy different ecological niches, therefore a single species cannot possibly represent all the requirements of a host of other species. Such is true for the spotted owl. The Northern Spotted Owl Recovery Team was charged with considering other species and older-forest ecosystems in developing a recovery plan for the northern spotted owl. In fulfilling this charge, we emphasized species that were listed federally as threatened or endangered, candidates for federal listing, state sensitive or species of special concern, and those associated with older forests. A list of 350+ species of plants and animals that occur within the range of the northern spotted owl was assembled. This list is comprised of 24 species of birds, 18 mammals, 26 amphibians and reptiles, 28 fish, 58 mollusks, 59 arthropods, 144 vascular plants, and 8 fungi and lichens. Five species are listed federally as threatened or endangered, and 155 species are candidates for federal listing. At the state level, over 100 species are listed as threatened or endangered, or designated as sensitive or species of special concern. More than 100 species are narrowly or broadly endemic to the Pacific Northwest and 190+ are associated with older forests. This effort also substantiated the importance of riparian ecosystems as approximately one-third (130+) of the species are associated with riparian areas. In addition, the 28 species of fish include approximately 800 stocks that are considered at risk and may become candidates for listing. Eighteen priority species were identified, of which the marbled murrelet and the numerous fish stocks were considered the highest priority. Information on the distribution, biology, and habitat relationships of the priority species and the ecology of riparian ecosystem was used to influence the location of some of the conservation areas for the owl. However, the extent to which this exercise could be carried out was influenced by economics and the preponderance of non-biologists on the recovery team. Consequently, the recovery plan for the northern spotted owl cannot be portrayed as a conservation plan for late-successional forests in the Pacific Northwest.

Listing, Critical Habitat Designation, and Development of the Northern Spotted Owl Recovery Plan

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The northern spotted owl (*Strix occidentalis caurina*) was listed as a threatened species by the U.S. Fish and Wildlife Service in 1990. Following the listing, the Fish and Wildlife Service, acting under court order, designated critical habitat for the species. Concurrently, the Department of the Interior named a team to begin work on a Recovery Plan for northern spotted owls. This Recovery Plan was published as a draft in May 1992, and a final draft is expected in early 1993. The basic principles underlying the Plan are based on the 1990 report of the Interagency Scientific Committee. It recommends the establishment of 196 Designated Conservation Areas (DCAs) on federal lands, and contains guidelines for silviculture and salvage operations within those DCAs. It also contains a series of recommendations to provide dispersal habitat in the federal forest matrix between DCAs. It recognizes the contribution that can be made to recovery by private lands, and suggests ways for the contribution to be made more effective. Major issues that must be dealt with before publication of the final Plan include: 1) a consideration of demographic data which indicate an accelerating decline in the spotted owl population; 2) a review of models that might be used to evaluate the Recovery Plan and other options; and 3) a detailed description of the procedures that could be used to continually update the Plan based on new information. Success of the final Plan will depend on close coordination among federal and state agencies.

Prey Ecology and Northern Spotted Owl Diet

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Mammals constitute 90% of the spotted owl's diet; dietaries vary locally and seasonally, but are consistent annually at larger geographic scales. *Glaucomys sabrinus* (GLSA) is the single most important prey, accounting for 16–46% of the prey items consumed. GLSA is the only species to